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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,293	01/15/2004	Jeffrey Knapp	367618009US1	5167
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EXAMINER

CHEN, SHIH CHAO

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 10/758,293	Applicant(s) KNAPP, JEFFREY	
Examiner Shih-Chao Chen	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 January 2004.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-54 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 19-31 and 48-50 is/are allowed.
- 6) Claim(s) 1-3,5,7-14,16-18,32,34-38,40,41,44,46,51,52 and 54 is/are rejected.
- 7) Claim(s) 4,6,15,33,39,42,43,45,47 and 53 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 January 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 3, line 16, "a propellor 104" should be changed to --a propeller 104--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5, 6-14, 16-18, 36-38, 40-41, 44 and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Munson et al. (U.S. Patent No. 3,713,162).

Regarding claim 1, Munson et al. teaches in figures 1-5 an aircraft system, comprising: an aircraft antenna [10] that includes: a flexible substrate material [24]; and at least one flexible conductive material [18, 20] positioned adjacent to least one surface of the substrate material, wherein at least portions of the flexible substrate material [24] and the conductive material [18, 20] are disposed in a generally cylindrical manner about an elongated axis (See Fig. 2-4).

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Regarding claim 2, Munson et al. teaches in figures 1-5 the system of claim 1, further comprising at least one circuit element [40] formed in the at least one conductive material [20].

Regarding claim 3, Munson et al. teaches in figures 1-5 the system of claim 1, further comprising at least one conductive lead [52, 54, 56, 58] formed in the at least one conductive material [20].

Regarding claim 5, Munson et al. teaches in figures 1-5 the system of claim 1, wherein the substrate material [24] and the conductive material [18, 20] are rolled as a unit about the elongated axis to form a closed cylinder (See Fig. 2).

Regarding claim 7, Munson et al. teaches in figures 1-5 the system of claim 1, wherein the at least one conductive material [18, 20] is integrally attached to the substrate material [24].

Regarding claim 8, Munson et al. teaches in figures 1-5 the system of claim 1, wherein the flexible substrate material [24] includes a flexible, low dielectric insulator.

Regarding claim 9, Munson et al. teaches in figures 1-5 the system of claim 1, wherein the at least one flexible conductive material [20] includes a low resistivity conductor.

Regarding claim 10, Munson et al. teaches in figures 1-5 the system of claim 1, further comprising an aircraft (i.e. the propelled vehicle), and wherein the antenna [10] is carried by the aircraft.

Regarding claim 11, Munson et al. teaches in figures 1-5 an aircraft system, comprising: an aircraft antenna [10] that includes: a flexible substrate material [24]

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having a first surface and a second surface opposite the first surface; a first conductive layer [18] positioned adjacent to the first surface of the substrate; and a second conductive layer [20] positioned adjacent to the second surface of the substrate, wherein at least portions of the flexible substrate material [24], the first conductive layer [18], and the second conductive layer [20] are rolled about an axis into an at least partially cylindrical shape elongated along the axis (See Fig. 2-4).

Regarding claim 12, Munson et al. teaches in figures 1-5 the system of claim 11, further comprising at least one circuit element [40] formed in at least one of the first and second conductive layers [20].

Regarding claim 13, Munson et al. teaches in figures 1-5 the system of claim 11, further comprising at least one conductive lead [52, 54, 56, 58] formed in the second conductive layer [20].

Regarding claim 14, Munson et al. teaches in figures 1-5 the system of claim 11, wherein at least portions of the substrate material [24], the first conductive layer [18], and the second conductive layer [20] are rolled about the axis to form a closed cylinder (See Fig. 2).

Regarding claim 16, Munson et al. teaches in figures 1-5 the system of claim 11, wherein the flexible substrate material [24] includes a flexible, low dielectric insulator.

Regarding claim 17, Munson et al. teaches in figures 1-5 the system of claim 11, wherein at least one of the first and second conductive layers [18, 20] includes a low resistivity conductor.

Regarding claim 18, Munson et al. teaches in figures 1-5 the system of claim 11, further comprising a support material [46] disposed at least partially within an interior surface of the cylinder (See Fig. 3) formed by rolling the at least portions of the substrate material [24] and the first and second conductive materials [18, 20] about an axis.

Regarding method claims 36-38, 40-41, 44 and 46, the apparatus discussed above would perform the claimed method.

4. Claims 32, 35, 51-52 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Ceccom et al. (U.S. Patent No. 6,653,980).

Regarding claim 32, Ceccom et al. teaches in figures 1-4 a aircraft system, comprising: an unmanned aircraft (i.e. aircraft) including a lifting surface having a winglet [21]; an antenna package [10] releasably positioned inside the winglet [21]; and at least one antenna [12] releasably positioned in the antenna package.

Regarding claim 35, Ceccom et al. teaches in figures 1-4 the system of claim 32 wherein the antenna package [10] includes a receptacle portion [11] having a flexible, undersized receptacle positioned to receive the antenna [12], and a cover portion [13] coupled to the receptacle portion and movable relative to the receptacle portion between a closed position and an open position (See FIG. 2), the antenna being accessible when the cover portion is in the open position.

Regarding method claims 51-52 and 54, the apparatus discussed above would perform the claimed method.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ceccom et al. (Cited above) in view of Munson et al. (Cited above).

Ceccom et al. teaches every feature of the claimed invention in paragraph 4 except for a flexible substrate material; and at least one flexible conductive material positioned adjacent to at least one surface of the substrate material, wherein at least portions of the substrate material and the conductive material are rolled about an axis into an at least partially cylindrical shape.

Munson et al. teaches in figures 1-5 a flexible substrate material [24]; and at least one flexible conductive material [18, 20] positioned adjacent to at least one surface of the substrate material, wherein at least portions of the substrate material [24] and the conductive material [18, 20] are rolled about an axis into an at least partially cylindrical shape (See Fig. 2-4).

In view of the above statement, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the exciting element as shown in Ceccom et al. by using the thin flexible wrap-around antenna assembly as taught by Munson et al. in order to suitable for use in conjunction with a propelled vehicle (See Abstract).

Allowable Subject Matter

7. Claims 19-31 and 48-50 are allowed.
8. Claims 4, 6, 15, 33, 39, 42, 43, 45, 47 and 53 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 19-24 is the inclusion of the limitation of the second conductive layer including a transmitter portion and a receiver portion electrically isolated from the transmitter portion. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 25-31 is the inclusion of the limitation of a third conductive layer positioned adjacent to the second conductive layer, the third conductive layer being electrically coupled to the first conductive layer and electrically isolated from the second conductive layer. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 48-50 is the inclusion of the method step of providing the second conductive layer including at least one antenna

conductor portion, a transmitter portion, and a receiver portion. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (571) 272-1819. The examiner can normally be reached on Monday-Friday from 7 AM to 4:30 PM, First Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shih-Chao Chen
Shih-Chao Chen
Primary Examiner
Art Unit 2821

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December 28, 2004